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NOTES ON THE COMMON MOSQUITOES OF BIHE AND BAILUNDO DISTRICTS, PORTUGUESE WEST AFRICA.*

FREDK. CREIGHTON WELLMAN.

(*Concluded* from Vol. 2, p. 631.)

Culex hirsutipalpis, Theob.

Mono. Culicid., 1901, 1, p. 378. *Gnats or Mosquitoes*, 2d ed., 1902, p. 403. *Entomologist*, 1905, 38, p. 156.

A LARGE mosquito which has as its striking feature the long, dense, black hairs on the last two joints of the ♂ palpi. It closely resembles *C. plumosis*. Thorax golden brown. Two cream-colored spots on the mesonotum. There is a darkish line down the middle of the thorax. Abdomen dark brown with semi-circular, light-yellow, basal, median, and lateral spots. Proboscis with broad yellow band. Legs brown with cream-colored bands on the tibio-metatarsal and tarsal joints. The wings have the first submarginal cell somewhat longer and narrower than the second posterior. A peculiarity of the wings is the very distinct incrassations (the so-called sixth and eighth veins). The figure of the ♂ ungues in Theobald's monograph is incorrect. He has been able to clear-up this point by dissection of material sent by the writer. The ♂♂ from this region differ from the type in having no pale band at the apex of the palpi, and Mr. Theobald's diagnosis of my first specimen was "*Culex sp. nov.* near *hirsutipalpis*, Theob." The eggs are black and laid in large rafts. A rainy-season mosquito. Breeds in enormous numbers in dirty pools resulting from building, grading, etc. Breeds out readily in captivity. I have kept them for two generations. They vary greatly in size. The type measures 5 mm., but some individuals are a third smaller than this.

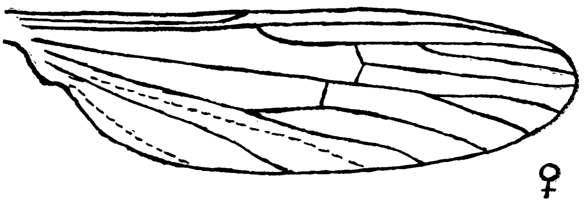

FIG. 6.—Wing Venation of C. *hirsutipalpis* ♀.

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GENERAL REMARKS ON THE GENUS *HEPTAPHLEBOMYIA*, THEOB. AS ILLUSTRATED BY THE WRITER'S SPECIMENS OF *H. SIMPLEX*.

Heptaphlebomyia simplex, Theob.

Mono. Culicid., 1901, 3, p. 337. *Entomologist*, 1905, 38, p. 157.

In view of Mr. Theobald's remark that the fresh "material sent . . . . by Dr. Creighton Wellman has enabled me to add fresh generic characters to those already given," it may be of interest to recall here the main points in his new characterization of the genus. Head clothed with narrow curved scales and upright forked ones except at the sides, where they are small and spatulate. Palpi of ♀ small but prominent, in ♂ acuminate, the last two segments hairy. Thorax, scutellum, and prothorax clothed with narrow, curved scales. In ♀♀ the pleuræ have pointed patches of flat scales, which in the ♂♂ are apically rounded. Wings with typical *Culex* venation, except the seventh long, scaled vein in ♀. In the ♂ there is no true scaled seventh vein, but the sixth is bent at right angles near the edge of the wing. The scaled seventh vein in the ♀ and the characteristic scales on the pleuræ are unique among *Culicidae.*

The species *simplex* (which so far is the only one in the genus) has hitherto been known only from ♀ specimens. The ♂ has now for the first time been described from three individuals collected by the writer. *H. simplex* can, as has been said, easily be told from all other mosquitoes by the ♀ having a distinct, scaled seventh wing vein. It is a remarkable fact that the ♂ does not share this peculiarity. The general facies of *H. simplex* suggests *C. fatigans* while the leg-markings simulate those of *C. creticus.* The thorax and pleuræ are brown, the latter with snowy white dots. The abdomen is dark brown with basal, light, curved bands. There are lateral segmental spots in the ♀, while the ♂ has scattered yellow scales on the apical segment and pale bands on the base and sides of the penultimate segment. The wings in both sexes have the first submarginal cell longer

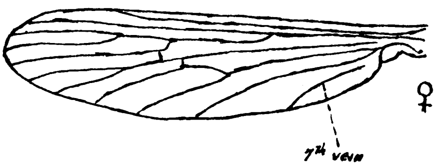

FIG. 7.—Wing Venation of *H. simplex* ♀.

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[1] *Entomologist, loc. cit.*, p. 156.

and narrower than the second posterior. Like the preceding it is a rainy-season mosquito. The eggs are brownish and are laid in rafts. Will breed in foul pools. Length 3.5–4 mm.

SUPPLEMENTARY NOTE ON *MANSONIA AFRICANA*, THEOB. AND *CULEX VIRIDIS*, THEOB.

Cf. *Mono. Culicid.*, 1901, 3, pp. 212 and 273 f.

The mosquito which was determined as *M. africana* (*vide supra*) is not a very common mosquito in the district where I first took it (Bihé), but I have since found it in enormous numbers in a district about a hundred miles from the first named (S. Bailundo), and have had opportunity to compare a suite of specimens with the descriptions of Theobald's *M. uniformis;* and I think with him that they are the same and that the name *M. africana* should sink. Also on re-reading my remark on *C. viridis* I note that my language would convey the impression that the imago is green. The larva and pupa are referred to. The imago itself is brown except the pleuræ, which are greenish gray. I was breeding out larvæ which had been brought me from different sources and all put into one vessel by the collector when I wrote the note mentioned, and the bright green larvæ and pupæ of *C. viridis* were very striking. There is another green larva which sometimes occurs with those of this mosquito. On breeding these out I find they are not *C. pulcher*, as I surmised above, but are a species unfamiliar to me, which I am forwarding for determination. In the course of larva-hunting, since writing the original note on *C. viridis* I have been able to verify my suspicions then stated and find that it breeds in certain *Bromeliaceae*, notably several species of *Amomum* and *Costus*.

It should be borne in mind that the *Culicidae* mentioned in the preceding list are confined to those which are common over the two somewhat extensive districts studied—Bihé and Bailundo. Other mosquitoes, abundant in limited areas, together with a few rare species, will be discussed in a subsequent paper. A full consideration of the pathological significance of these gnats would be of interest but is out of place in a study of this kind. I may say, however, that of the anophelines the most important is *M. funesta*, although I have proven *P. austeni* to be also also a carrier of malaria. I am elsewhere publishing statistics in the form of charts and maps which show the geographical distribution of the former mosquito in this region to be essentially the same as that of severe malaria and black-water fever, and that the amount of rainfall at different seasons of the year has a direct relation, both to the comparative number of anophelines taken and the percentage of malarial infections among the natives.